

RESTRICTION RESPONSE

The Office has restricted the present application as follows:

Group I – Claims 41-42, 46, 49-52, and 54-56;

Group II – Claims 43 and 46;

Group III – Claims 44-46 and 55;

Group IV – Claims 47 and 53;

Group V – Claim 48;

Group VI – Claim 57;

Group VII – Claims 58-59, 62-63, 66-69, 71-78, and 81;

Group VIII – Claims 60 and 63;

Group IX – Claims 61, 63, 72, and 79;

Group X – Claims 64, 70, and 80;

Group XI – Claim 65; and

Group XII – Claims 82-87.

Applicants elect, with traverse, Group I – Claims 41-42, 46, 49-52, and 54-56.

Applicants submit that Group I should also include claim 45. Furthermore, new claims 88, 94, and 95 should be included with Group I.

The amendment to Claim 41 is supported by the specification section of the present application (see page 5, lines 1-36; p. 6, lines 1-27; p. 9, lines 30-31 of WO2004/062677, the PCT publication of the present application). Support for the amendment to Claim 49 is on p. 9, lines 7-8 and 14-16 of the PCT publication. Claim 50 has been amended to recite the bacteriophages recited in Claim 83. Claim 53 has been amended to recite the bacteriophages previously listed in canceled Claim 52. Claim 58 has been amended in accordance with Claim 41. Claims 60-61 and 64-65 have been amended for the sake of clarity. Claim 82 has been amended in accordance with amended Claim 41. Claim 85 has been amended in accordance with amended Claim 49. Claim 87 has been amended in accordance with amended Claim 41.

New Claims 88, 90, 91, and 93 are supported by the original wording of Claims 41, 58, 82, and 87. New Claims 89 and 92 correspond to amended Claim 49. New

claims 94-101 are supported by the PCT publication on page 8, lines 10-19. New claim 102 is supported on page 14, line 10.

No new matter has been added. Claims 41-42, 46, 49-52, 54-56, 88 and 94-95 are active, and Claims 41-52, 53-56, 58-61, 63-68, 70-80 and 82-102 are present.

The Office maintains that the only technical feature linking Groups I-XII is a GH bacteriophage. The restriction further alleges that this does not constitute a special technical feature as Lee *et al.* (J. Bacteriol., 92:1821-1827, 1966) discloses “bacteriophage gh-1”, which infects *Pseudomonas putida*. Applicants respectfully traverse. The technical feature unifying all groups is not a bacteriophage, but rather the novel combination of a bacteriophage, a polysaccharide lyase, and an antimicrobial agent. Furthermore, the bacteriophages of Lee *et al.* are entirely unrelated to the GH bacteriophage of the Claims.

Virulence and pathogenicity of microorganisms is often enhanced when growing as a biofilm. For example, most cystic fibrosis (CF) patients suffer from recurrent and chronic end-bronchial *Pseudomonas aeruginosa* infections. An inflammatory response occurs resulting in a shift of the organism’s phenotype from non-mucoid to a mucoid phenotype. This phenotype grows an endo-bronchial biofilm, which is impossible to eradicate through conventional antibiotic therapy (page 6, lines 23-28 of the PCT publication).

The present invention provides a novel, alternative approach for tackling microbial infections within a biofilm with a composition comprising a bacteriophage and a first polysaccharide lyase enzyme (page 7, lines 1-3). The bacteriophage preferably targets one or more bacteria of the biofilm (page 8, line 32), and the polysaccharide lyase enzyme breaks down a component of the biofilm, for example alginate produced by mucoid strains of *P. aeruginosa* (page 10, lines 10-18). A pharmaceutically-acceptable agent, for instance an antibiotic (page 12, lines 15-24), is also present in the composition.

Lee *et al.* is silent as to compositions including a bacteriophage and a lyase enzyme. In addition, the “bacteriophage gh-1” of the reference is unrelated to those of the invention. The nomenclature “GH” employed in the present application is a “local” nomenclature derived from the name of one of the inventors of the present application,

Gavin Hughes (*i.e.* G.H.). Moreover, the claims recite bacteriophages capable of infecting bacteria within a biofilm of a patient, *e.g.* bacteria associated with opportunistic infections, such as *P. aeruginosa*. By contrast, Lee *et al.* specifically states that “bacteriophage gh-1” fails to infect *P. aeruginosa* (Lee, Abstract). Instead, “bacteriophage gh-1” infects *P. putida*, a microorganism not known as pathogenic.

In view of the foregoing, Applicants submit that the Office has failed to meet the burden needed to sustain the Restriction Requirement. Withdrawal of the Restriction Requirement is respectfully requested.

Applicants submit that the application is now ready for examination on the merits. Early notice of such action is earnestly solicited.

Respectfully submitted,


W. John Keyes, Ph.D.
Registration No. 54,218

Evan Law Group LLC
600 West Jackson
Suite 625
Chicago, Illinois 60661
(312) 876-1400